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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,583	02/04/2004	Kenwood Hall	03AB072/ALBRP330US	3801
7590 Susan M. Donahue Rockwell Automation, 704-P, IP Department 1201 South 2nd Street Milwaukee, WI 53204			EXAMINER AHN, SANGWOO	
			ART UNIT 2166	PAPER NUMBER
			MAIL DATE 12/21/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

AK

<b>Office Action Summary</b>	<b>Application No.</b> 10/771,583	<b>Applicant(s)</b> HALL, KENWOOD	
	<b>Examiner</b> Sangwoo Ahn	<b>Art Unit</b> 2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 October 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 3, 5 - 20, 22 - 25 and 27 - 29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 3, 5 - 20, 22 - 25 and 27 - 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. Claims 1 – 3, 5 – 20, 22 – 25 and 27 – 29 are pending.

Claims 1, 10, 19, 23 and 29 have been amended.

Claims 4, 21 and 26 have been canceled.

### *Response to Arguments*

2. Applicant's arguments with respect to 35 U.S.C. 101 rejections have been fully considered but they are not persuasive.

Claims 1, 10 and 29 still lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, function descriptive material *per se*.

3. Applicant's arguments with respect to 35 U.S.C. 103 rejections have been fully considered but they are not persuasive.

Applicant mainly argued that Mehta does not disclose "the elements of the data structure are mapped to respective record columns of the database table." Examiner totally disagrees with this assertion because Mehta clearly and rather explicitly discloses the aforementioned feature in column 5 lines 48 – 50 (data structures are mapped onto a logical table 210 which contains record columns(See Figure 2)), lines 56

– 58 and 60 – 64 (the logical table 210 is a table of all PCB's where each row in the logical table is dedicated to a PCB and the associated columns (equivalent to "respective record columns") contain several entries of the PCB (equivalent to "the elements of the data structure")), etc.

For the foregoing reasons, 35 U.S.C. 101 and 103 rejections are sustained.

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. **Claims 1, 10 and 29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter, since each of them explicitly claims "a system." As such, they fail to fall within a statutory category. They are, at best, function descriptive material *per se*.

When functional descriptive material is recorded on some computer-readable medium and executed by a processor, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1 – 3, 5 – 7, 9 – 20, 22 – 25 and 28 – 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,999,933 issued to Abhay Mehta (hereinafter “Mehta”) in view of U.S. Publication Number 2003/0172046 issued to Zachariah Scott (hereinafter “Scott”).**

Regarding claim 1, Mehta discloses,

A system that facilitates data exchange with industrial devices (Figure 1, column 4 lines 61 – 62, et seq.), comprising:

a mapping component that represent computer readable data stored within an industrial device as a database table, wherein the industrial device is retrieved from a data structure, the elements of the data structure are mapped to respective record columns of the database table (See Response to Arguments);

an intelligence component that facilitates generating and mapping data to the at least one database table by determining when, how and which data structures should be transformed to corresponding database tables (column 5 lines 46 – 50, column 6 lines 53 – 64, et seq.); and,

an interface component that provides access to the database table (column 21 lines 4 – 7, et seq.).

Mehta does not explicitly disclose “data exchange/access via a standard database connection”.

However, Scott discloses “data exchange/access via a standard database connection” (paragraph 5 lines 5 – 7, paragraph 22 lines 4 – 6, et seq.). At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the two references because Scott’s data exchange/access method via a standard database connection combined with Mehta’s overall system would have provided technologies that simplify the management of non-database systems (Scott: paragraph 7 lines 2 – 3, et seq.) and permit querying data stored in tables for relatively easy analysis of the data (Mehta: column 2 lines 51 – 53, et seq.).

Regarding claim 2, Scott discloses the standard database connection is a Java DataBase Connectivity (JDBC) connection (paragraph 22 lines 4 – 6, et seq.).

Regarding claim 3, Mehta discloses the database table is a relational database table (column 4 lines 21 – 28, et seq.).

Regarding claim 5, Mehta discloses the database table is accessed via one or more remote systems that employ disparate operating systems (column 4 lines 44 – 49, et seq.).

Regarding claim 6, Mehta discloses the disparate operating systems include one or more of UNIX, HPUX, IBM, AIX, Linux and Microsoft (column 4 lines 44 – 49, et seq.).

Regarding claim 7, Mehta and Scott disclose the access includes read (Mehta: column 21 lines 4 – 7, et seq.) and write access (Scott: paragraph 27 lines 3 – 6, et seq.).

Regarding claim 9, Mehta discloses the interface component facilitates discovery of industrial device data and the database table (column 21 lines 4 – 7, et seq.).

Regarding claim 10, Mehta discloses,

An industrial device that enables access to computer readable data stored therein (column 21 lines 4 – 7, et seq.), comprising:

an interface that facilitates reading from one or more relational database tables stored within the industrial device, wherein data from the industrial device is retrieved from a data structure, the elements of the data structure are linked to corresponding record columns of the database table (column 21 lines 4 – 7, et seq. and See Response to Arguments);

a transformation component that maps one or more data structure associated with the industrial device to the one or more relational database tables (column 4 lines 26 – 27, column 5 lines 46 – 50, et seq.); and

an intelligence component that determines when, how and which data structures should be transformed to corresponding database tables column 3 lines 1 – 10, column 6 lines 53 – 64, Figure 1: 146 and 168, et seq.).

Mehta does not explicitly disclose “industrial control device” and “data exchange/access via a standard database connection.

However, Scott discloses “industrial control device” and “data exchange/access via a standard database connection” (paragraph 15 lines 6 – 10, paragraph 5 lines 5 – 7, paragraph 22 lines 4 – 6, et seq.). At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the two references because Scott’s data exchange/access method via a standard database connection combined with Mehta’s overall system would have provided technologies that simplify the management of non-database systems (Scott: paragraph 7 lines 2 – 3, et seq.) and permit querying data stored in tables for relatively easy analysis of the data (Mehta: column 2 lines 51 – 53, et seq.).

Regarding claim 11, Mehta discloses the transformation component is executed within one of a module of the industrial control device, a host computer, and the interface (Figure 3, et seq.).

Regarding claim 12, Mehta discloses the transformation component is executed without knowledge of industrial device data layout (column 5 lines 48 – 50, et seq.).

Regarding claim 13, Scott discloses the access for at least one of transaction commitment, transaction rollback and transaction termination (paragraphs 27 – 28, et seq.).

Regarding claim 14, Scott discloses the standard database connection is employed to establish a connection with the interface by a remote device (paragraph 5 lines 5 – 7, paragraph 22 lines 4 – 6, et seq.).

Regarding claim 15, Scott discloses the standard database connection is an SQL-compliant connection (paragraphs 27 – 29, et seq.).



Regarding claim 16, Scott discloses the standard database connection is a Java DataBase Connectivity (JDBC) connection (paragraph 5 lines 5 – 7, paragraph 22 lines 4 – 6, et seq.).

Regarding claim 17, Scott discloses a JDBC Open or Select command(s) to read data and a JDBC Post command to write data (paragraphs 27 – 28, paragraph 27, and chart 1).

Regarding claim 18, Mehta and Scott disclose an intelligence component that facilitates mapping, reading (Mehta: column 5 lines 46 – 50, column 21 lines 4 – 7, et seq.) and writing (Scott: paragraph 27 lines 3 – 6, et seq.) the industrial device data.

Regarding claim 19, Mehta discloses,

A method that facilitates access to industrial devices data, comprising:

retrieving industrial device data, wherein the industrial device data is retrieved from a data formation, the elements of the data formation are linked to respective record columns of the database table (column 21 lines 4 – 7, et seq. and See Response to Arguments);

generating and mapping data to at least one database table by employing an intelligence component that determines when, how and which data should be transformed to corresponding database tables (column 5 lines 46 – 50, column 6 lines 53 – 64, et seq.); and

providing access to the data in the at least one database table (column 21 lines 4 – 7, et seq.).

Mehta does not explicitly disclose a standard database connection that is Java DataBase Connectivity (JDBC) connection.

However, Scott discloses a standard database connection that is Java DataBase Connectivity (JDBC) connection (paragraph 5 lines 5 – 7, paragraph 22 lines 4 – 6, et seq.). At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the two references because Scott's data exchange/access method via a standard database connection combined with Mehta's overall system would have provided technologies that simplify the management of non-database systems (Scott: paragraph 7 lines 2 – 3, et seq.) and permit querying data stored in tables for relatively easy analysis of the data (Mehta: column 2 lines 51 – 53, et seq.).

Regarding claim 20, Mehta discloses updating the at least one database table when industrial data changes (column 2 lines 54 – 67, et seq.).

Regarding claim 22, Mehta discloses the disparate operating systems include one or more of UNIX, HPUX, IBM, AIX, Linux and Microsoft (column 4 lines 44 – 49, et seq.).

Regarding claim 23, Mehta discloses,

A method for accessing industrial device data, comprising;

establishing a connection with an industrial device, wherein the industrial device data is retrieved from a data structure, the parts of the data structure are mapped to corresponding record columns of the database table (Figure 1, et seq. and See Response to Arguments);

discovering relational database tables stored within the industrial device (column 2 lines 44 – 54, et seq.);

utilizing an intelligence component to facilitate data exchange with the industrial device (column 2 lines 45 – 54, column 21 lines 4 – 7, et seq.); and

accessing the data within the relational database tables (column 21 lines 4 – 7, et seq.).

Mehta does not explicitly disclose “data exchange/access via a standard database connection”.

However, Scott discloses “data exchange/access via an SQL-compliant database connection” (paragraph 5 lines 5 – 7, paragraph 22 lines 4 – 6, et seq.). At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the two references because Scott’s data exchange/access method via an SQL-compliant database connection combined with Mehta’s overall system would have provided technologies that simplify the management of non-database systems (Scott: paragraph 7 lines 2 – 3, et seq.) and permit querying data stored in tables for relatively easy analysis of the data (Mehta: column 2 lines 51 – 53, et seq.).

Regarding claim 24, Scott discloses the SQL-compliant database connection is a Java Database Connectivity (JDBC) connection (paragraph 5 lines 5 – 7, paragraph 22 lines 4 – 6, et seq.).

Regarding claim 25, Scott discloses the access for at least one of transaction commitment, transaction rollback and transaction termination (paragraphs 27 – 28, et seq.).

Regarding claim 28, Mehta discloses concurrently accessing more than one of the relational databases (column 21 lines 5 – 11, et seq.).

Regarding claim 29, Mehta discloses,

A system that enables access to database tables associated with industrial devices, comprising:

means for opening a database connection with the industrial device (Figure 3, column 4 lines 61 – 63, et seq.);

means for mapping data from at least one data structure to at least one database table by employing an intelligence component that determines when, how and which computer readable data structure should be transformed to corresponding database tables, wherein data from the industrial device is retrieved from a data structure, the elements of the data structure are mapped to respective record columns of the database table (column 5 lines 46 – 50, column 6 lines 53 – 64, et seq. and See Response to Arguments);

means for discovering the at least one database table (column 21 lines 4 – 7, et seq.); and

means accessing the discovered database tables (column 21 lines 4 – 7, et seq.).

Mehta does not explicitly disclose means for retrieving suitable protocols and configuration (Figure 1: 146 and 168, et seq.).

However, Scott discloses means for retrieving suitable protocols and configuration and accessing the discovered database tables (paragraph 22 lines 4 – 6, paragraph 27 lines 2 – 4, paragraph 31 lines 12 – 14, et seq.). At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the two references because Scott's means for retrieving suitable protocols and configuration combined with Mehta's overall system would have provided technologies that simplify the management of non-database systems (Scott: paragraph 7 lines 2 – 3, et seq.) and permit querying data stored in tables for relatively easy analysis of the data (Mehta: column 2 lines 51 – 53, et seq.).

**8. Claims 8 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehta and Scott as applied to claims above, and further in view of U.S. Publication Number 2004/0143791 issued to Yuichi Ito et al. (hereinafter "Ito").**

Regarding claim 8, Mehta and Scott disclose the system of claim 1.

Mehta and Scott do not explicitly disclose the aspect of transferring table data as a binary file.

However, Ito discloses transferring table data as a binary file in paragraph 6 lines 10 – 14. At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the references because Ito's binary file transfer method would have enabled Mehta and Scott's overall system for fast and efficient transfer of data, taking less time than the original text-based code (paragraph 7 lines 7 – 9, et seq.).

Regarding claim 27, Mehta and Scott disclose the method of claim 27.

Mehta and Scott do not explicitly disclose the aspect of transferring table data as a binary packets.

However, Ito discloses transferring table data as a binary file in paragraph 6 lines 10 – 14. At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the references because Ito's binary packet transfer method would have enabled Mehta and Scott's overall system for fast and efficient transfer of data, taking less time than the original text-based code (paragraph 7 lines 7 – 9, et seq.).

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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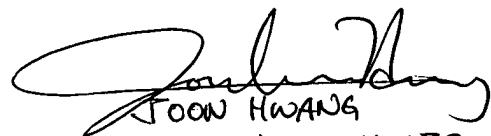
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sangwoo Ahn whose telephone number is (571) 272-5626. The examiner can normally be reached on M-F 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Patent Examiner Sangwoo Ahn  
AU 2166

12/17/2007 SW

  
JOON HWANG  
PRIMARY EXAMINER